



AIR RESOURCES LABORATORY

SEMINAR

Urban climate variability and change: a remote sensing approach

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Almost half of the world's population live in cities, a fraction projected to reach two-thirds (over 5 billion) by 2025. Urbanization, through land use and cover changes, generates distinct micro climates and strongly contributes to greenhouse gas emissions. Our ability to predict urban climate variability and change, and to mitigate their impact depends on our understanding of the urban surface/atmosphere exchange of heat, gases, and momentum. These physical processes are difficult to monitor solely with in-situ instruments. Satellite borne instruments provide quantitative physical data at high spatial or temporal resolution. The observation of urban surface properties and temperature variability will be presented through urban experiments in North America and Europe. The implications of climate change on urban areas, and of extreme climate events such as the 2003 heat wave in Paris, will be discussed. Finally, the integration of urban remote sensing data into boundary layer models, and public health models will be addressed.

10:00A, Thursday, September 7

SSMC3, Rm. 3404

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